November 8, 2001

Mr. Daniel O'Connor
Keihin IPT Manufacturing, Inc.
400 West New Road
Greenfield, IN 46140

Re: **059-14848-00013**
Second Minor Revision to
FESOP 059-9160-00013

Dear Mr. O'Connor:

Keihin IPT Manufacturing, Inc. was issued a permit on May 28, 1998 for a stationary automotive components manufacturing operation. A letter requesting changes to this permit was received on September 14, 2001. Pursuant to the provisions of 326 IAC 2-8-11.1 a minor permit revision to this permit is hereby approved as described in the attached Technical Support Document.

Keihin IPT Manufacturing, Inc. has submitted a request to revise the existing FESOP to reflect the fact that the wet scrubber is only necessary during periods of time when the furnaces of Unit 1 are fluxing.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the minor permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Scott Fulton, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (800) 451-6027, press 0 and ask for Scott Fulton or extension (3-5691), or dial (317) 233-5691.

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
SDF
cc: File - Hancock County
U.S. EPA, Region V
Hancock County Health Department
Air Compliance Section Inspector - Warren Greiling
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR QUALITY

Keihin IPT Manufacturing, Inc.
400 West New Road
Greenfield, Indiana 46140

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 and 326 IAC 2-1-3.2, as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F059-9160-00013	Date Issued: May 29, 1998
First Minor Permit Modification 059-10290-00013	Date Issued: March 22, 1999
First Administrative Amendment 059-11071-00013	Date Issued: July 21, 1999
Second Administrative Amendment 059-11181-00013	Date Issued: October 1, 1999
First Significant Permit Revision 059-11634-00013	Date Issued: March 22, 2000
Third Administrative Amendment 059-11862-00013	Date Issued: March 20, 2000
Fourth Administrative Amendment 059-12650-00013	Date Issued: October 13, 2000
Fifth Administrative Amendment 059-14033-00013	Date Issued: April 24, 2001
Sixth Administrative Amendment 059-14237-00013	Date Issued: July 18, 2001
Second Minor Permit Revision No.: F059-14848-00013	Affected Pages: 27, 28, and 29, with pages 27a and 28a added
Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: November 8, 2001

SECTION D.1 FACILITY OPERATION CONDITIONS

(1) Eight (8) aluminum furnaces, identified as Unit 1, with a maximum capacity of 3,238 pounds of aluminum ingots and flux per hour, using a wet scrubber as control, exhausting to one (1) stack (EF-48);

(2) Fifteen (15) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area, ten (10) core knockout machines, and one (1) uncontrolled small tertiary knockout machine, identified as Unit 2, with a maximum capacity of 4,857pounds of aluminum and sand per hour, with the sand molding machines, aluminum casting machines and the die maintenance area controlled by three (3) baghouses, exhausting to three (3) stacks (EF-49, EF-101, and EF-107), and with the ten (10) core knockout machines controlled by ten (10) dust collectors;

(3) One (1) throttle body shotblast, identified as Unit 3, with maximum capacity of 10,000 pounds of Zinc Shot per year, which exhausts through stack EF-117;

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2 (Process Operations):

(a) The particulate matter (PM) emissions from the eight (8) aluminum furnaces (Unit 1) shall be limited to 5.66 pounds per hour.

(b) The particulate matter (PM) emissions from the fifteen (5) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area, ten (10) core knockout machines and one (1) uncontrolled small tertiary knockout machine (Unit 2) shall be limited to 7.4 pounds per hour, and

(c) The particulate matter (PM) emissions from the one (1) throttle body shotblast (Unit 3) shall be limited as established in the following equation:

These limits are based on the following equation:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

D.1.2 Aluminum Processing Requirements

The metal processed at the eight (1) furnaces of Unit 1 shall be clean aluminum only.

For the purposes of this Condition, clean aluminum is defined as:

(a) molten aluminum,
(b) T-bar,
(c) sow,
(d) ingot,

(e) billet,
(f) pig,
(g) alloying elements,
(h) thermally dried aluminum chips,
(i) aluminum scrap dried at 650°F or higher,
(j) aluminum scrap delacquered/decoated at 900°F or higher,
(k) other gates and risers,
(l) aluminum scrap, shapes, and products, and
(m) scrap material generated on-site by aluminum extruding, rolling, scalping, forging, forming/stamping, cutting, and trimming operations, dried at 650°F or higher or equivalent non-thermal drying process,

that are oil- and lubricant-free, unpainted/uncoated, and have not undergone any processes that would cause contamination of the aluminum.

Compliance Determination Requirements

D.1.3 Testing Requirements [326 IAC 2-8-5(1)]

Testing of this facility is not required by this permit. However, if testing is required, compliance with the particulate matter limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing. This does not preclude testing requirements on this facility under 326 IAC 2-8-4 and 326 IAC 2-8-5.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.4 Particulate Matter (PM)

(a) To achieve compliance with the limit of Condition D.1.1, the owner or operator shall operate the wet scrubber at all times any of the eight (8) furnaces (Unit 1) are in operation, controlling only the PM emissions generated during fluxing.

(b) The three (3) baghouses (EF-49, EF-101, and EF-107) for PM control shall be in operation at all times when the fifteen (15) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area are in operation; and

(c) The ten (10) dust collectors for PM control shall be in operation at all times when the ten (10) core knockout machines (Unit 2) are in operation.

D.1.5 Visible Emissions Notations

(a) To demonstrate compliance with the PM limitations of Condition D.1.1, the owner or operator shall perform daily visible emission notations of the eight (8) aluminum furnaces, eleven (11) shell core sand molding machines, eighteen (18) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines stack exhausts, at least once per operating day during normal daylight operations, with the aluminum furnace visible emission notations being performed once per operating day during normal daylight operations during any period of time fluxing is being performed.

All visible emission notations shall be recorded by a trained employee and shall specify whether the emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the three (3) baghouses (EF-49, EF-101, and EF-107) used in conjunction with the fifteen (15) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area, at least once daily when the fifteen (15) shell core sand molding machines, eighteen (18) aluminum casting machines, one (1) die maintenance area are in operation and the total static pressure drop across the ten (10) dust collectors used in conjunction with the core knockout machines at least once daily when the core knockout machines are in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the three (3) baghouses and the ten (10) dust collectors shall be maintained within the range of 2.0 and 7.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

D.1.7 Broken Bag or Failure Detection

In the event that bag and/or dust collector failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced.

(b) Based upon the findings of the inspection, any additional response steps will be devised within eight (8) hours of discovery and will include a timetable for completion.

D.1.8 Wet Scrubber Inspections

An inspection shall be performed each calender quarter of the wet scrubber controlling the eight (8) aluminum furnaces.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.9 Record Keeping Requirements

The owner or operator shall keep the following records:

(a) To document compliance with Condition D.1.2, the owner or operator shall keep a one time signed certification from each metal supplier, stating that the metal supplied to Keihin IPT Manufacturing, Inc., qualifies as clean metal as defined in Condition D.1.2.

(b) To document compliance with Condition D.1.5, the owner or operator shall maintain records of daily visible emission notations of the eight (8) aluminum furnaces, eleven (11) shell core sand molding machines, eighteen (18) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines stack exhausts.

(c) To document compliance with Condition D.1.6, the owner or operator shall maintain the following:

(1) Daily records of the following operational parameters during normal operation:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(d) To document compliance with Condition D.1.8, the owner or operator shall maintain records of the results of the inspections required under Condition D.1.8.

All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Minor Permit Revision to a Federally Enforceable State Operating Permit (FESOP)

Source Background and Description

Source Name:	Keihin IPT Manufacturing, Inc.
Source Location:	400 West New Road, Greenfield, Indiana 46140
County:	Hancock
SIC Code:	3714
Operation Permit No.:	059-9160-00013
Minor Permit Revision No.:	059-14848-00013
Permit Reviewer:	SDF

The Office of Air Quality (OAQ) has reviewed an application from Keihin IPT Manufacturing, Inc. relating to the following proposed changes to their existing stationary automotive components manufacturing operation.

Keihin IPT Manufacturing, Inc. (KIM) has submitted an application to revise the existing FESOP to reflect the fact that the wet scrubber is only necessary during periods of time when the furnaces of Unit 1 are fluxing.

KIM has stated that there are eight reverberatory furnaces which exhaust emissions to a wet scrubber. Fluxing is performed in each furnace once a shift or on an as needed basis. The furnace fluxing schedules are staggered such that only one furnace is being fluxed to the scrubber at any one time. Since the wet scrubber is always on and is always receiving a fluxed air stream from one of the eight furnaces, it was determined by KIM, that the wet scrubber should be operated at all times the furnaces are in operation, but that only the PM emissions generated during fluxing should be controlled by the wet scrubber.

KIM has therefore submitted the following:

(a) No changes are necessary to Condition C.6 because this condition references operation as specified in Section D.

(b) Condition D.1.1(a) should be revised to increase the 326 IAC 6-3-2 hourly limit from 4.52 pounds per hour to 5.66 pounds per hour.

(c) Condition D.1.3(a) should be revised to clarify that the requirement to operate the wet scrubber applies at all times that the furnaces are being fluxed.

(d) Condition D.1.4(a) should be revised to clarify that the requirement to conduct visible emission observations once per day on the wet scrubber applies during times that fluxing is being performed on one of the furnaces.

KIM has stated that the furnace control device (the wet scrubber) should only control emissions from the one furnace that is being fluxed and that the other seven furnaces should not be controlled. Since the original permit assumed that the emissions from all eight furnaces are being controlled at all times, changing the permit to reflect reduced control will generate an increase in the potential to emit.

Therefore, emission calculations must be performed to determine the level of approval required to allow KIM's request.

Based on the AP-42 emission factors, a maximum combined process rate of 3,238 pounds per hour for all eight furnaces. 8,760 hours of operation, PM emissions equal to PM10, unrestricted potential to emit from the 8 furnaces, and the new operating scenario which includes seven uncontrolled furnaces and one furnace controlled by the wet scrubber with an overall control efficiency of 85%, the increase in potential to emit (PTE) is estimated to be 22.66 tons PM(PM10)/yr.

Since the PM and PM10 unrestricted potential to emit due to the proposed changes exceed the respective applicable level under 326 IAC 2-8-11.1(d)(4)(A), the proposed changes shall be permitted as a minor permit revision.

The proposed changes will not generate an increase in the production rate of any unit or process at the source.

History

The source was issued a Federally Enforceable State Operating Permit (FESOP), F059-9160-00013, on May 29, 1998. Since issuance, the following changes to the FESOP have been approved:

(a)	First Minor Permit Revision:	059-10290-00013	Date Issued: March 22, 1999
(b)	First Administrative Amendment:	059-11071-00013	Date Issued: July 21, 1999
(c)	Second Administrative Amendment:	059-11181-00013	Date Issued: October 1, 1999
(d)	First Significant Permit Revision:	059-11634-00013	Date Issued: March 22, 2000
(e)	Third Administrative Amendment:	059-11862-00013	Date Issued: March 20, 2000
(f)	Fourth Administrative Amendment:	059-12650-00013	Date Issued: October 13, 2000
(g)	Name Change:	059-14033-00013	Date Issued: April 24, 2001
(h)	Fifth Administrative Amendment:	059-14237-00013	Date Issued: July 18, 2001

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

There are no new stacks associated with the new emission units.

Recommendation

The staff recommends to the Commissioner that the minor permit revision be approved. This recommendation is based on the following facts and conditions:

An application for the purposes of this review was received on September 14, 2001.

Emission Calculations

The emissions generated by the 8 furnaces are PM and PM10. The following calculations determine the unrestricted potential to emit due to the proposed changes.

The following calculations determine the PM and PM10 UPTE of the 8 furnaces based on a PM(PM10) AP-42 emission factor of 4.3 lb/ton (taken from Section 12.8), a combined production rate of 1.62 tons/hr, 8760 hours of operation, and emissions before controls.

1.62 tons/hr * 4.3 lb PM(PM10)/ton * 8760 hr/yr * 1/2000 tons PM(PM10)/lb PM(PM10) = 30.51 tons PM(PM10)/yr

As currently described in the permit, all 8 furnaces are controlled by a wet scrubber with an overall control efficiency of 85%. The following calculations determine the emissions after controls.

30.51 tons PM(PM10)/yr * (1 - 0.85) = 4.58 tons PM(PM10)/yr

Based on the proposed revision, one furnace is controlled and the other seven are uncontrolled. The following calculations determine the emissions based on the proposed revision.

[30.51 tons/yr] / 8 furnaces = 3.81 tons PM(PM10)/yr from each furnace

[3.81 tons PM(PM10)/yr * 7 furnaces] + [3.81 tons PM(PM10)/yr * (1 - 0.85) = 27.24 tons PM(PM10)/yr

The emissions due to the proposed revision is the difference between the emissions after the revision and before the revision.

27.24 tons PM(PM10)/yr - 4.58 tons PM(PM10)/yr = 22.66 tons PM(PM10)/yr

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design.

Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	22.66
PM-10	22.66

(a) Since the PM and PM10 unrestricted potential to emit due to the proposed changes exceed the respective applicable level under 326 IAC 2-8-11.1(d)(4)(A), the proposed changes shall be permitted as a minor permit revision.

(b) Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in Hancock County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Hancock County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Hancock County has been classified as attainment for rest of the criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Existing Source Status

Existing Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Emissions (ton/yr)
PM	< 100
PM10	< 100
SO2	<100
VOC	<100
NOx	<100
CO	<100
Single HAP	<10
Combination HAPs	<25

(a) This existing source is not a PSD major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

(b) This existing source is not a Part 70 major stationary source because each criteria pollutant PTE of the existing source is less than the applicable level of 100 tons per year, and the single and combined HAP emissions are less than their respective applicable levels of 10 and 25 tons per year, respectively.

Source Status After Modification

	Source Potential to Emit After Controls (tons/year)							
Unit	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Worst Case Single HAP (tons/yr)	Comb. HAPs (tons/yr)
After the Modification	<100	<100	<100	<100	<100	<100	<10	<25

PSD Major Levels	250	250	250	250	250	250	-	-
Part 70 Major Levels	-	100	100	100	100	100	10	25

(a) The source after the modification is not a major PSD stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more and it is not one of the 28 listed source categories.

(b) This source after the modification is not a Title V major stationary source because no criteria pollutant potential to emit (PTE) exceeds the applicable level of 100 tons/yr, no single hazardous air pollutant PTE exceeds the applicable levels of 10 tons/yr, and the combined hazardous air pollutant PTE does not exceed the applicable level of 25 tons/yr.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source after the proposed changes.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source after the proposed changes.

State Rule Applicability

There are no state rules that become applicable due to the proposed minor permit revision.

However, KIM has requested that the 326 IAC 6-3-2 limit under Condition D.1.1 be amended to reflect the change in process weight rate permitted in the third administrative amendment (059-11862-00013, issued on March 20, 2000).

Upon review of administrative amendment 059-11862-00013, it is determined that the process weight rate was changed from 2,312 lb/hr to 3,238 lb/hr. However, the 326 IAC 6-3-2 limit (4.52 lb PM/hr) was not revised to reflect the increase in the process weight rate. Therefore, the 326 IAC 6-3-2 PM limit shall be revised as follows:

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) overspray from the eight (8) aluminum furnaces (Unit 1), three (3) core sand mixing machines, eight (8) core sand molding machines and four (4) core knockout machines (Unit 2), and the one (1) throttle body shotblast (Unit 3) be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$

where: E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

For the eight (8) aluminum furnaces:

P = 3,238 pounds per hour = 1.62 tons/hr
E = 5.66 pounds PM per hour

The above limit is relaxed from 4.52 lb PM/hr to 5.66 lb PM/hr. However, there are no requirements under 326 IAC 2-8-11(f) (significant permit revision) that require a relaxation of a limit to be a significant permit revision.

Therefore, the proposed change is still determined to be a FESOP minor permit revision.

Changes Due to the Proposed Changes:

(a) Condition C.6:

KIM has requested that the OAQ review condition C.6 to determine if any changes are necessary as a result of their request to require that the furnace scrubber only collect the fluxing emissions.

Upon review of Condition C.6, it is determined that C.6 does require the source to operate all of the air pollution control equipment associated with the source, but only “as described in Section D” of the permit.

Since the operating requirements of Condition C.6 are based on the requirements specified in Section D and the changes made to the permit as a result of KIM’s proposal shall be made to the appropriate section D conditions, no changes to Condition C.6 are required.

(b) Condition D.1.1(a):

KIM has requested that the 326 IAC 6-3-2 PM limit of Condition D.1.1 be changed to reflect the increased process weight rate permitted in Third Administrative Amendment, 059-11862-00013, issued on March 20, 2000.

Third administrative amendment 059-11862-00013 allowed for an increase in throughput from 2,312 tons per hour to 3,238 tons per hour. However, the amendment did not change the associated 326 IAC 6-3-2 limit under Condition D.1.1. The PM limit based on the increased throughput, as previously determined, is estimated to be 5.66 lb PM/hr.

Therefore, Condition D.1.1(a) shall be amended as follows:

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]
Pursuant to 326 IAC 6-3-2 (Process Operations):

(a) The particulate matter (PM) emissions from the eight (8) aluminum furnaces (Unit 1) shall be limited to ~~4.52~~ **5.66** pounds per hour.

(c) Condition D.1.3(a):

KIM has requested that Condition D.1.3(a) be changed to require that the wet scrubber associated with the furnaces of Unit 1 control only the fluxing emissions.

KIM has eight (8) furnaces. The furnaces process clean metal only. Thus, the primary source of emissions are the PM and PM10 emissions generated during fluxing. KIM's furnace process is designed such that fluxing occurs in sequence (one furnace at a time). The PM and PM10 emissions are controlled by a wet scrubber.

The permit currently requires the source to operate the wet scrubber at all times the furnaces are in operation and to control emissions from all eight furnaces at all times. KIM has requested that this condition be changed to still require the wet scrubber be operated at all times, but only require the fluxing emissions to be controlled. KIM's reasoning for this is that using clean metal for processing reduces the source of significant emissions to periods when only fluxing occurs.

Upon review of the permit and the respective conditions, it is determined that the changes requested by KIM can be granted. To allow the proposed changes to the permit, a new condition (D.1.2) shall be added to require clean metal be processed, and changes shall be made to existing Conditions D.1.3, D.1.4, and D.1.8.

Defining the metal processed as clean metal allows the use of the STAPPA ALAPCO emission factors instead of the EPA AP-42 emission factors because the EPA emission factors apply to the worst case dirty metal processed. The STAPPA ALAPCO emission factors take into account clean metal processing.

Utilizing the STAPPA ALAPCO emission factors, the unrestricted potential to emit for the furnaces during non-fluxing (7 of the 8 furnaces) can be established. By combining the unrestricted potential to emit of the 7 furnaces that are not fluxing with the fluxing emissions of the 8th furnace and comparing the results with the 326 IAC 6-3-2 emission limit, compliance under KIM's proposed scenario can be demonstrated. With compliance demonstrated, KIM's proposed changes can be allowed.

1. 7 Uncontrolled Furnaces:

The following calculations determine the PM and PM10 emissions from the seven furnaces based on KIM proposal, clean metal processing, a combined total metal production rate of 1.62 tons/hr, STAPPA ALAPCO emission factors, 8760 hours of operation, and emissions before controls.

PM: (7/8) * 1.62 tons metal/hr * 1.1 lb PM/ton metal * 8760 hr/yr * 1/2000 tons PM/lb PM = 6.82 tons PM/yr

PM10: 0.95 * 6.82 tons/hr = 6.48 tons PM10/yr

2. Fluxing Furnace:

The fluxing PM and PM10 emissions are determined based on fluxing, a combined total metal production rate of 1.62 tons/hr, EPA AP-42 emission factors, PM equal to PM10, 8760 hours of operation, and 85% control.

(1/8) * 1.62 tons/hr * 4.3 lb PM(PM10)/ton * 8760 hr/yr * 1/2000 tons PM(PM10)/lb PM(PM10) * (1 - 0.85) = 0.57 tons PM(PM10)/yr

The total PM and PM10 emissions under the KIM proposal are 7.39 and 7.05 tons/yr, respectively. The hourly PM equivalent is determined as follows:

PM: 7.39 tons/yr * 2000 lb/ton * 1/8760 yr/hr = 1.69 lb PM/hr

Since the hourly emissions under the KIM proposal (1.69 lb PM/hr) are less than the 326 IAC 6-3-2 allowable rate of 5.66 lb PM/hr, compliance is determined to be achieved. Therefore, the following changes to the permit shall be made.

The following changes shall be made to Condition D.1.3 (now D.1.4) as a result of KIM's proposal. Condition D.1.3(a) (now D.1.4(a)) shall be revised to reflect that the wet scrubber needs to be operated at all times the furnaces are in operation, but only the fluxing emissions need to be controlled.

D.1.3~~4~~ Particulate Matter (PM)

~~Pursuant to 326 IAC 6-3-2:~~

(a) **To achieve compliance with the limits of Condition D.1.1, the owner or operator shall operate the** wet scrubber **at all times any of the eight (8) furnaces (Unit 1) are in operation, controlling only the** ~~for~~ PM **emissions generated during fluxing.** ~~control shall be in operation at all times when the eight (8) aluminum furnaces (Unit 1) are in operation.~~

(d) New Condition D.1.2:

In addition to the changes to existing Condition D.1.3, a new condition needs to be added to the permit that requires the owner or operator to process clean aluminum. Therefore, the following condition shall be added as Condition D.1.2:

D.1.2 Aluminum Processing Requirements

The metal processed at the eight (1) furnaces of Unit 1 shall be clean aluminum only.

For the purposes of this Condition, clean aluminum is defined as:

(a) molten aluminum,
(b) T-bar,
(c) sow,
(d) ingot,
(e) billet,
(f) pig,
(g) alloying elements,
(h) uncoated/unpainted thermally dried aluminum chips;
(i) aluminum scrap dried at 650°F or higher;
(j) aluminum scrap delacquered/decoated at 900°F or higher;
(k) other oil- and lubricant-free unpainted/uncoated gates and risers;
(l) oil- and lubricant-free unpainted/uncoated aluminum scrap, shapes, or products that have not undergone any processes that would cause contamination of the aluminum; and
(m) scrap material generated on-site by aluminum extruding, rolling, scalping, forging, forming/stamping, cutting, and trimming operations, dried at 650°F or higher or equivalent non-thermal drying process,

that are oil- and lubricant-free, unpainted/uncoated, and have not undergone any processes that would cause contamination of the aluminum.

All successive conditions shall be re-numbered accordingly.

No changes to the compliance determination section are required because there are no compliance determination requirements pertaining to the 326 IAC 6-3-2 PM limit, and no compliance determination requirements are necessary for new condition D.1.2.

(e) Condition D.1.4(a):

KIM has requested that Condition D.1.4(a) (now D.1.5(a)) be changed to require that the visible emission notations be made during the periods of fluxing.

Condition D.1.4(a) (now D.1.5(a)) shall still require daily visible emission notations, but shall be changed to specify that the notations made must be during periods of fluxing. The revised requirements are as follows:

D.1.~~4~~**5** Visible Emission Notations

(a) **To demonstrate compliance with the PM limitations of Condition D.1.1, the owner or operator shall perform** ~~D~~**d**aily visible emission notations of the eight (8) aluminum furnaces, eleven (11) shell core sand molding machines, eighteen (18) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines stack exhausts~~ shall be performed~~ **, at least** once per operating day during normal daylight operations**, with the aluminum furnace visible emission notations being performed once per operating day during normal daylight operations during any period of time fluxing is being performed.**

All visible emission notations shall be recorded by ~~A~~**a** trained employee **and** shall ~~record~~ **specify** whether **the** emissions are normal or abnormal.

(f) Condition D.1.8:

The record keeping requirements of Condition D.1.8 (now D.1.9) shall be amended as follows to include a requirement to keep a certification from each manufacturer stating that the metal supplied meets the criteria for clean metal as defined in Condition D.1.1.

D.1.~~8~~**9** Record Keeping Requirements

The owner or operator shall keep the following records:

(a) To document compliance with Condition D.1.2, the owner or operator shall keep a one time signed certification from each metal supplier, stating that the metal supplied to Keihin IPT Manufacturing, Inc., qualifies as clean metal as defined in Condition D.1.2.

(b) To document compliance with Condition D.1.~~4~~**5**, the ~~Permittee~~ **owner or operator** shall maintain records of daily visible emission notations of the eight (8) aluminum furnaces, eleven (11) shell core sand molding machines, eighteen (18) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines stack exhausts.

(c) To document compliance with Condition D.1.~~5~~**6**, the ~~Permittee~~ **owner or operator** shall maintain the following:

(1) Daily records of the following operational parameters during normal operation:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(d) To document compliance with Condition D.1.~~7~~**8**, the ~~Permittee~~ **owner or operator** shall maintain records of the results of the inspections required under Condition D.1.~~7~~**8.**

~~(d)~~All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Conclusion

The owner or operator shall operate the equipment of the source as specified in this attached permit revision (059-14848-00013) and the existing Federally Enforceable State Operating Permit (FESOP) No. 059-9160-00013.